



Flight Service PIREP Support Submission, Solicitation, & Dissemination

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Mike Glasgow
Lockheed Martin Transportation Solutions
mike.glasgow@lmco.com

Context – Flight Service Modernization



- **AFSS, Legacy Flight Service**
- **Modernization Drivers**
 - Improve safety: many new capabilities
 - Reduce cost: exploit available technology to reduce calls, transition to service enabler
 - Engage commercial marketplace: web services infrastructure
- **A76 contract structure key enabler**
- **Modernization strategy is working**
 - >1.2M adverse condition alert detections in 2016
 - 20+ operational web service clients, ~15 in integration, now handling more transactions online than through our specialist workforce

PIREP Support Prominent in Modernization

Enabling Electronic PIREP Submission

Flight Services Data Link (FSDL)

- Bi-directional electronic communications with cockpit
- Provides infrastructure for a wide range of applications
- Pathway to handle routine flight service communications with automation



Spidertracks



Honeywell



DeLorme



Garmin

Inflight Electronic PIREP Submission

Three Submission Models

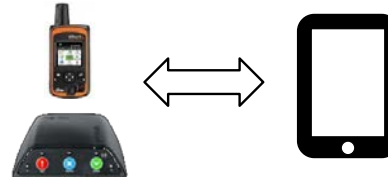
Satellite Communications Devices with Integrated Display



**Honeywell
Sky Connect**

Honeywell SkyConnect and Aerovie available by Oshkosh AirVenture

Satellite Communications Devices as Conduit



Additional vendors to follow shortly

Mobile App, Internet Connectivity, Store & Forward When Necessary



Aerovie

PIREP Web Service

PIREP Validation

ACAS

NGB

Alerts

Briefings

Other NAS Systems

Lockheed Martin Flight Services Automation




AerovieReports PIREP Submission UI

[Cancel](#) **ADD REPORT**


WHEN: **NOW**
NOW 30 MINS AGO
Minutes ago the report occurred

LOCATION: **GPS** **MANUAL**
CALLSIGN: N1303H
TYPE: SR22
ALTITUDE: FL000

REMARKS:

SHARING: Share on social network.
   [ADD PHOTO](#)

RIDE: Select ride comfort




TURB. BASES TURB. TOPS

[Occasional](#) [Continuous](#)

PRECIPITATION: Select Weather

Wind Deg: 270 Knots: 32




Visibility N/A

CLOUD BASES CLOUD TOPS

Clouds: [Clear](#) [Few](#) [Sct](#) [Bkn](#) [Ovc](#)

ICING: Select Icing Conditions

Outside Air Temperature: 15 C



ICING BASES ICING TOPS

[Clear](#) [Rime](#) [Mixed](#)

SUBMIT REPORT

Common UI Themes:

- Preconfigured aircraft type and tail number / call sign
- Auto-fill (with optional assist) for time, location
- Pilot is primarily concerned with characterizing conditions

Minimize heads-down time!



7/23 Test Flight - Cirrus
Perspective / G1000 MFD via
XM Sat feed.

Solicitation



- Surveillance-Enhanced Search & Rescue uses FSDL to receive regular position updates from VFR flights; traditional surveillance provides location for most IFR flights
- Given a mechanism to determine more PIREPs are desirable in a particular area (could be NWS or Flight Service automation), PIREP solicitations could be targeted to FSDL-equipped aircraft (IFR or VFR)
- Communications infrastructure to support exists – but service not implemented at this time

AerovieReports PIREP Submission UI

Notional

Home

KALB->HXD

GPS

View

Settings

160 NM Distance

325 NM Dist Remain

4496 FT Altitude

01:03 ETA

123 NM Next

PIREP Request

Flight Services has requested Pilot Weather Reports for your flight.

- Turbulence Forecasted in Area

Turbulence

Frequency

Intensity

Type

Alt(s)

In/Near

Full PIREP Form

NEG Turb

Submit

Later

Decline

Route

Weather

Screen

GPS

WX Brief (2)

FS – Datalink

PIREP Dissemination - Briefings



Weather Briefing - Google Chrome

https://www.1800wxbrief.com/Website/weather/text?seed=1466401430008#

Plain Text NEXTGEN View Standard Brief VFR TTT123 C172/A KMDT 200600 380 KMKE 0330 50nm Register for Briefing Updates

Adverse Cond Synopsis Current Wx Forecasts NOTAMS Flow Control UOA Misc All

METAR PIREP

1 of 1 PIREPs
Selected PIREP is highlighted on map

Urgent, Over Chardon, Chardon, OH (CXR), 150° radial at 15 nautical miles, Time: 0426Z,
Altitude: flight level 410, A/C Type: BRITISH AEROSPACE BAe-125-700/800 (C-29, U-125),
Turbulence: Wave action +/- flight level 300

PIREPs on Monochrome Dark Map Sectionals

The map displays a flight path from KMKE to KMDT. A yellow square with a red lightning bolt icon marks the PIREP location near Chardon, OH. The flight path is labeled with (T/O) at KMKE, (T/D) near the PIREP, and TTT123 near KMDT. The aircraft is identified as 410-H258.

Ctrl + left click and drag to zoom

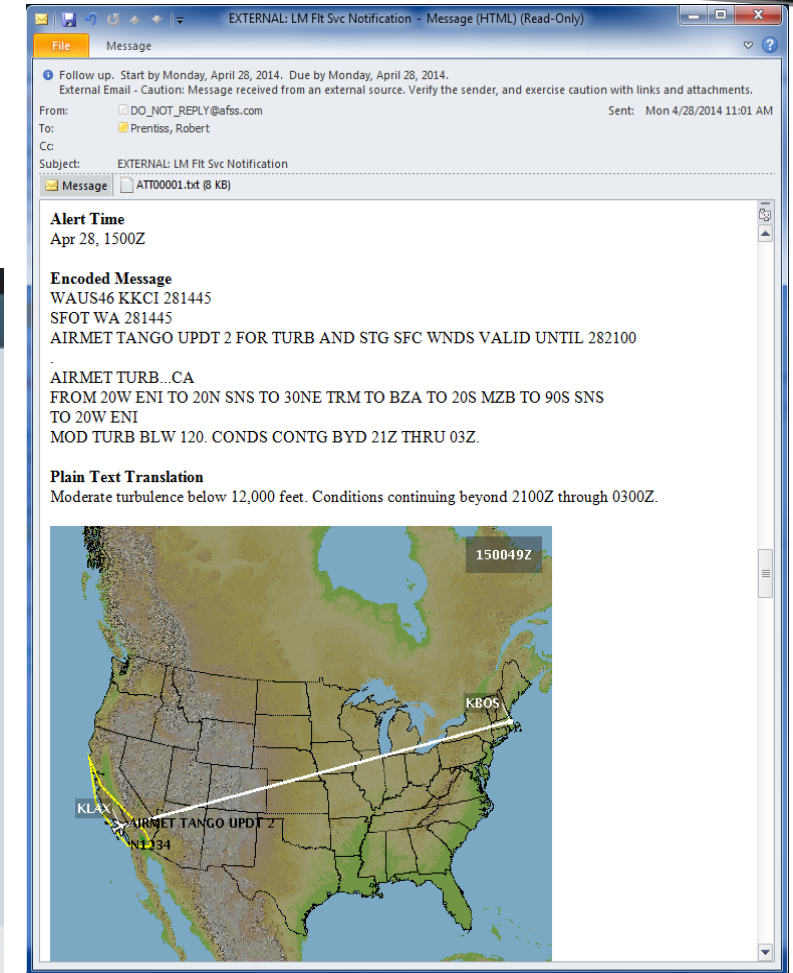
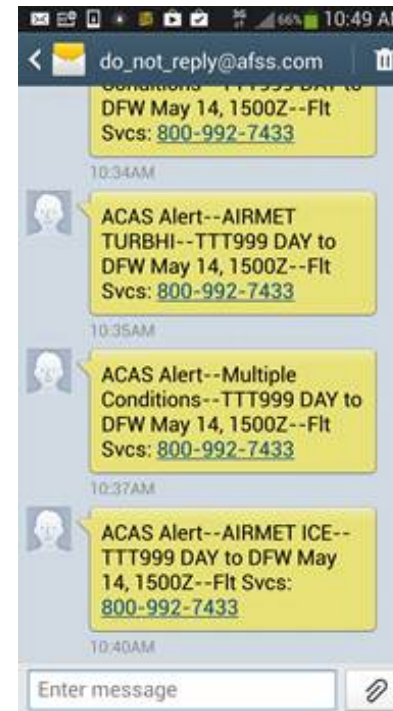
Wx None Animate Wx Configure Map Supplemental Wx

ICING
NEG TRC TRC-LGT LGT LGT-MDT MDT MDT-SVR SVR

TURB
NEG SMTH LGT LGT-MDT MDT MDT-SVR SVR EXT

Adverse Condition Alerting Service (ACAS)

- Free service, operational since October 2012
- Monitors flight plans after briefing/file, sends alerts to pilots for new or modified adverse conditions
 - TFRs, Closed/Unsafe Airports/Runways, SIGMETs, Convective SIGMETs, AIRMETs, **CWAs**, **Urgent PIREPs**, Severe Wx Warnings & Watches
- Preflight delivery via Email, text msg,
- Inflight delivery via SATCOM devices: spidertracks, Honeywell Sky Connect, DeLorme, Garmin
- Also via web services (e.g., Foreflight Flight Notifications)



43% of surveyed pilots said there were adverse conditions they would not have otherwise known about

Summary



- Electronic submission available
 - Working, but utilization still modest (~500 this year)
 - Many pilots unaware capability is available
 - Cost of communications / additional equipage has been a significant factor for “low-end” GA
- Solicitation could be added
- Proactive, targeted dissemination available

